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**CH2MHILL**

October 17, 2007

Ms. Jena Sleboda  
Remedial Project Manager  
U.S. EPA Remedial Response Branch, Region 5  
77 West Jackson Blvd (SR-6J)  
Chicago, IL 60604

Subject: Residential Study Area Near the Former Celotex Site  
2800 South Sacramento Avenue, Chicago, IL  
Residential Soil Sampling Report – September 2007 Addendum

Dear Ms. Sleboda:

This report is being submitted as an addendum to the FINAL Residential Soil Sampling Report (CH2M HILL, December 2006) that was submitted to the U.S. Environmental Protection Agency (USEPA) on December 6, 2006. This addendum documents the additional residential soil sampling that was conducted in September 2007 within the study area surrounding the former Celotex Site located at 2800 South Sacramento Avenue in Chicago, Illinois (the Site). The additional residential soil sampling documented herein was performed in accordance with the notification submitted to USEPA in a letter dated September 12, 2007. This letter is being submitted on behalf of Honeywell International Inc (Honeywell).

## Introduction

Residential soil sampling was conducted in 2006 to characterize the residential study area surrounding the Former Celotex Site to supplement previous sampling. Access agreements to all residential properties within the residential study area could not be obtained during the 2006 event. Additional access agreements were obtained in the spring and summer of 2007 and associated sampling was completed in May and July 2007. The additional residential soil sampling outlined in this letter was conducted following receipt of

additional access agreements received from property owners after the July 2007 sampling was completed. Additional access agreements were received and those six properties were sampled during this additional investigation. Five of these properties were identified in the September 12, 2007 letter to USEPA, one was subsequently added, and all are shown on Figure 2-1.

The sampling rationale and field activities for this investigation were conducted in accordance with the approved FINAL Residential Soil Sampling Work Plan (CH2M HILL, June 2006). As stated in the Work Plan, up to five sampling points for each property were collected; with one to two locations in the front yard and three to four in the back. If a small side yard was present, it was combined with the smaller of the front or back yard and sampled as part of the front or back yard composite.

Surface soil samples were collected from the 0 to 6-inch depth interval. To evaluate the vertical extent, shallow subsurface soil samples were collected from the 6 to 24-inch and 24 to 36-inch depth intervals. Sample aliquots from the boring locations in each yard were combined to form the composite sample from each depth interval. The depth intervals (or portions of depth intervals) in yards previously sampled were not re-sampled during this investigation. The depth intervals not sampled previously were sampled to evaluate the potential vertical extent of polycyclic aromatic hydrocarbons (PAHs).

## **Field Activities**

Field activities were completed in September 2007 and were conducted in accordance with the approved FINAL Residential Soil Sampling Work Plan (CH2M HILL, 2006).

### **Pre-Boring Assessments**

After signed access agreements were obtained and prior to sampling, each property was visited to collect site information, and develop an address-specific sampling plan. A site checklist was utilized to obtain and document information collected for each property, including any input from property owners. A complete list of information recorded during the site visit is identified in the FINAL Residential Soil Sampling Report (CH2M HILL, 2006). A site plan with dimensions of site features was created for each property visited. These plans are included in Attachment A.

### **Utility Locating**

Prior to any onsite activity, a utility locate request was submitted to the Chicago Utility Alert Network (DIGGER) for each property. Since DIGGER only locate utilities to the property line, a private locating firm was utilized to locate utilities within the boundaries of each residential property. The private locating firm utilized the DIGGER marks in order to follow the utilities on to the property. In addition, the private locator also connected to exposed utility lines on the residential property (such as gas meters and water spigots) to

locate utilities from the property building outward. In most cases the utility marks from both the private locator and DIGGER met at the property line, however sometimes the lines did not meet. In these cases, the marks of the private locator were used for the placement of boring locations.

### **Sampling Activity**

Sampling at each property proceeded through the same general sequence of steps based on safe work practices and procedures, required soil sampling methods and procedures, and to minimize disruption and noise to the property occupants and neighborhood. The sampling crew worked with the property owners and occupants to minimize time and impact to each property.

Samples were collected using a 4-foot long Geoprobe® Macro-Core® sampler with dedicated polyethylene soil sleeves driven into the ground using an electric jackhammer. The sampler was removed from the ground using a vehicle floor jack. In locations where this equipment could not be used, a hand auger was utilized to collect soil samples.

A complete list of steps undertaken during the sampling activities, including collection of quality control/quality assurance (QA/QC) samples, is located in the FINAL Residential Soil Sampling Report (CH2M HILL, 2006).

Boring locations were selected in a consistent manner for each similar property layout. The sampling rationale for each sampled property during the September 2007 event is contained in Table 1, where the table is subdivided by sampling area. The boring locations for each property are presented on the site plans in Attachment A.

### **Sampling Equipment Decontamination**

All non-disposable sampling equipment was decontaminated after each use utilizing a laboratory grade detergent wash and distilled water rinse. One equipment blank sample was collected in accordance with QA/QC requirements to ensure cross-contamination was not occurring.

## **Results of the September 2007 Residential Soil Sampling**

### **Sample Data Evaluation**

Lancaster Laboratories Inc., a contracted independent laboratory, conducted the analyses of the soil samples. All soil samples were analyzed for PAHs using the USEPA Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, Method 8270C, Semi-volatile Organic Compounds by Gas Chromatography/Mass Spectrometry. The specific compounds reported consist of the following seven PAHs that contribute to the benzo(a)pyrene equivalent (BAPEQ) concentration:

- Benzo(a)anthracene
- Benzo(a)pyrene
- Benzo(b)fluoranthene
- Benzo(k)fluoranthene
- Chrysene
- Dibenz(a,h) anthracene
- Indeno(1,2,3-cd)pyrene

The analytical results are presented through calculation of the BAPEQ concentration in accordance with USEPA-approved procedures. The BAPEQ concentration is the sum of the concentrations of seven PAH compounds, after each concentration is multiplied by that compounds relative potency (as compared to benzo(a)pyrene), as shown in Table 2 below.

**TABLE 2**  
PAH Potency Factors  
*Residential Study Area*  
*Former Celotex Site – Chicago, Illinois*

Compound	Relative Potency
Benzo(a)anthracene	0.1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.01
Chrysene	0.001
Dibenz(a,h)anthracene	1
Indeno(1,2,3-cd)pyrene	0.1

Compounds that are non-detect were utilized in the calculation by the standard procedure of assigning the value at  $\frac{1}{2}$  of the method detection limit. Estimated values (J qualified) were used at the reported value.

## BAPEQ Results

The individual PAH results obtained from the September 2007 residential soil sampling event were converted to BAPEQ concentrations to support comparison and evaluation of the results. This data is summarized by portion of the overall residential study area (i.e., northwest quadrant and southwest quadrant) in Table 3 below. The results are further subdivided by sample depth.

**TABLE 3**  
Summary of BAPEQ Results – September 2007  
*Residential Study Area*  
*Former Celotex Site – Chicago, Illinois*

Area <sup>1</sup>	No. Properties Sampled <sup>2</sup>	No. Properties with BAPEQ Results ≥ 10 ppm (% of total)			
		Any Depth	0-6" bgs	6-24" bgs	24-36" bgs
NE	4	4 (100%)	3 (75%)	2 (50%)	0 (0%)
NW	1	1 (25%)	1 (25%)	0 (0%)	0 (0%)
SW	2	2 (100%)	3 (100%)	0 (0%)	0 (0%)
Total	7	7 (100%)	7 (100%)	2 (30%)	0 (0%)

<sup>1</sup> Portion of Residential Study Area where NE = Northeast Quadrant; NW = Northwest Quadrant; SW = Southwest Quadrant

<sup>2</sup> Residential properties sampled in September 2007

" bgs = inches below ground surface, ppm = parts per million; NA = Not Applicable

The individual property results of the September 2007 analyses (presented as BAPEQ) are contained in Attachment B, Table B-1, organized from north to south by street. In addition, the historic residential soil sample results (as BAPEQ) for the two properties that were previously sampled are summarized in Attachment B, Table B-2. Attachment B, Tables B-3, B-4, and B-5 identify those properties with BAPEQ results greater than or equal to 10 ppm, 5 ppm, and 2 ppm, respectively, while Attachment B, Figure B-1 illustrates the distribution of properties with results greater than or equal to 10 ppm. Attachment B, Figures B-2a through B-3c illustrate the distribution of BAPEQ results by area and sample depth. A summary of the individual PAH results and QA/QC samples for the September 2007 residential soil sampling is provided in Attachment B, Table B-6. This property-specific information contained in Attachment B is considered confidential.

A summary of the non-property-specific BAPEQ results for the September 2007 residential soil sampling are provided in Appendix C, Table C-1.

Copies of the original analytical reports from September 2007 provided by the independent analytical laboratory are available upon request.

## Data Validation

Validation of the analytical data generated during the 2007 residential soil sampling event was patterned after the USEPA *Contract Laboratory National Functional Guidelines for Organic Data Review* (1999). Areas of review include holding time compliance, calibration verification, blank results, matrix spike precision and accuracy, method accuracy as demonstrated by laboratory confirmation samples, field duplicate results, surrogate

Ms. Jena Sleboda  
Page 6  
October 17, 2007

recoveries, internal standard performance, and interference checks. The data review and validation process is independent of the laboratory's checks and focuses on the usability of the data to support the project data interpretation and decision-making processes. The Data Evaluation is discussed in the memorandum contained in Confidential Attachment D.

The overall assessment of the data indicates that the completeness objectives were met for all method analyte combinations and the precision and accuracy of the data, as measured by the laboratory quality-control indicators, suggests that the project goals have been met.

## Conclusions

The additional Residential Soil Sampling was completed in accordance with the USEPA-approved work plan (CH2M HILL, June 2006) and produced analytical results that met the specified quality objectives. The results of this investigation will be utilized to guide residential removal actions as outlined in the FINAL Residential Soil Sampling Report (CH2M HILL, December 2006). Individual property results will be compiled and distributed, along with information on the cleanup process, to the respective property owners in coordination with USEPA. This process will be similar to that conducted during distribution of 2006, May 2007, and July 2007 residential soil sample results. The removal actions will take place in fall 2007.

If you have any questions regarding the completed sampling activities, please contact Joel Wipf at 773-693-3800 Ext. 253.

Sincerely,

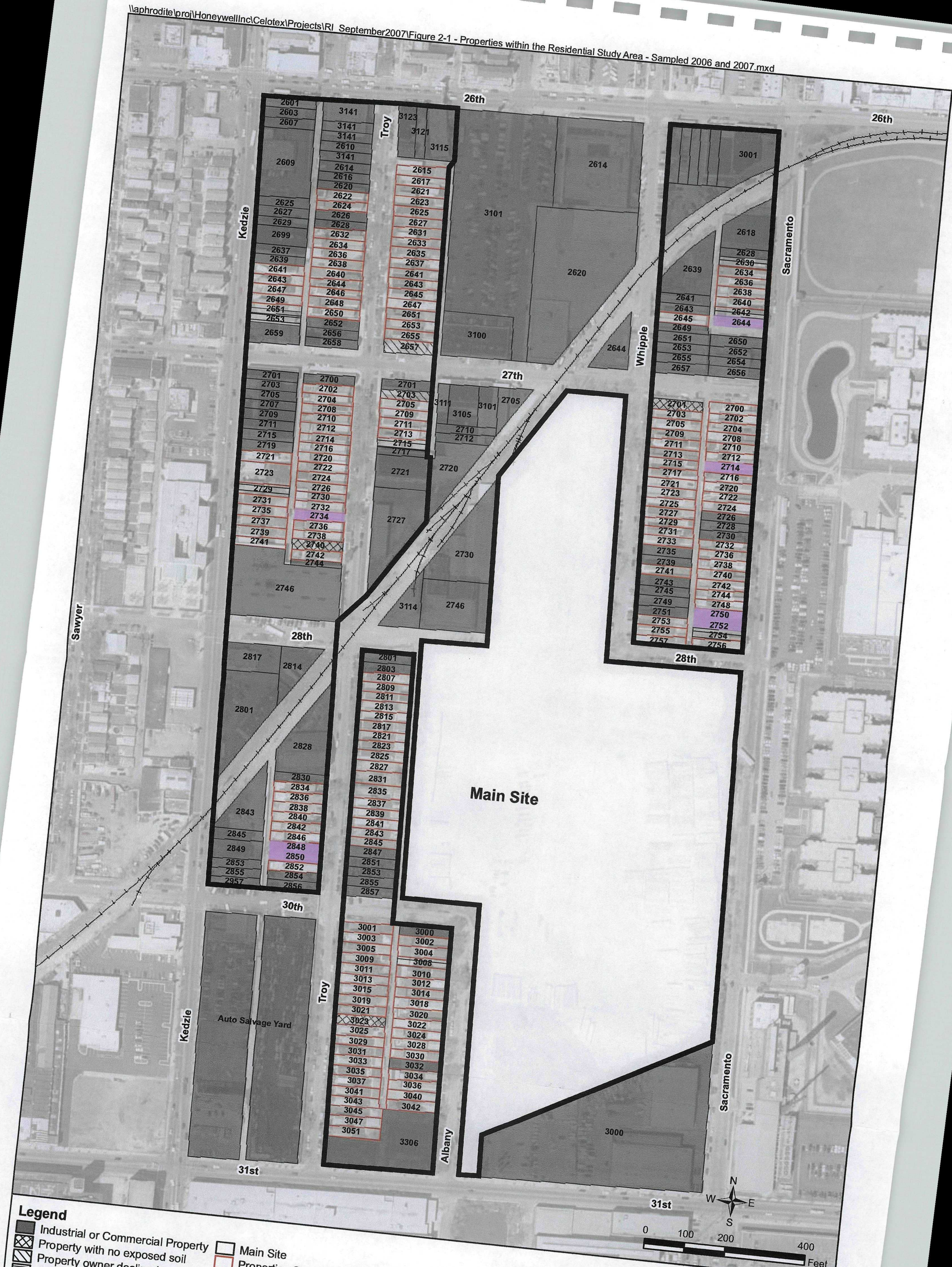
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Joel D. Wipf  
Project Manager

CHC/Sept2007Res\_Sampling\_Addendum\_EPA\_101707\_Final.doc  
c: Karen Peaceman/ USEPA Region 5  
Chuck Geadlemann/ Honeywell





**Legend**

- Industrial or Commercial Property
- Property with no exposed soil
- Property owner declined access
- No response from owner/tenants
- Main Site
- Properties Sampled in 2006 and May and July 2007
- Properties Sampled in September 2007

**Figure 2-1**  
**Properties within the Residential Study Area and those**  
**Sampled in 2006 and May, July, and September 2007**  
**Residential Study Area**  
**Near Former Celotex Site - Chicago, Illinois**



**TABLE 1****September 2007 Residential Soil Sampling Narrative**

Residential Study Area

*Near Former Celotex Site - Chicago, Illinois*

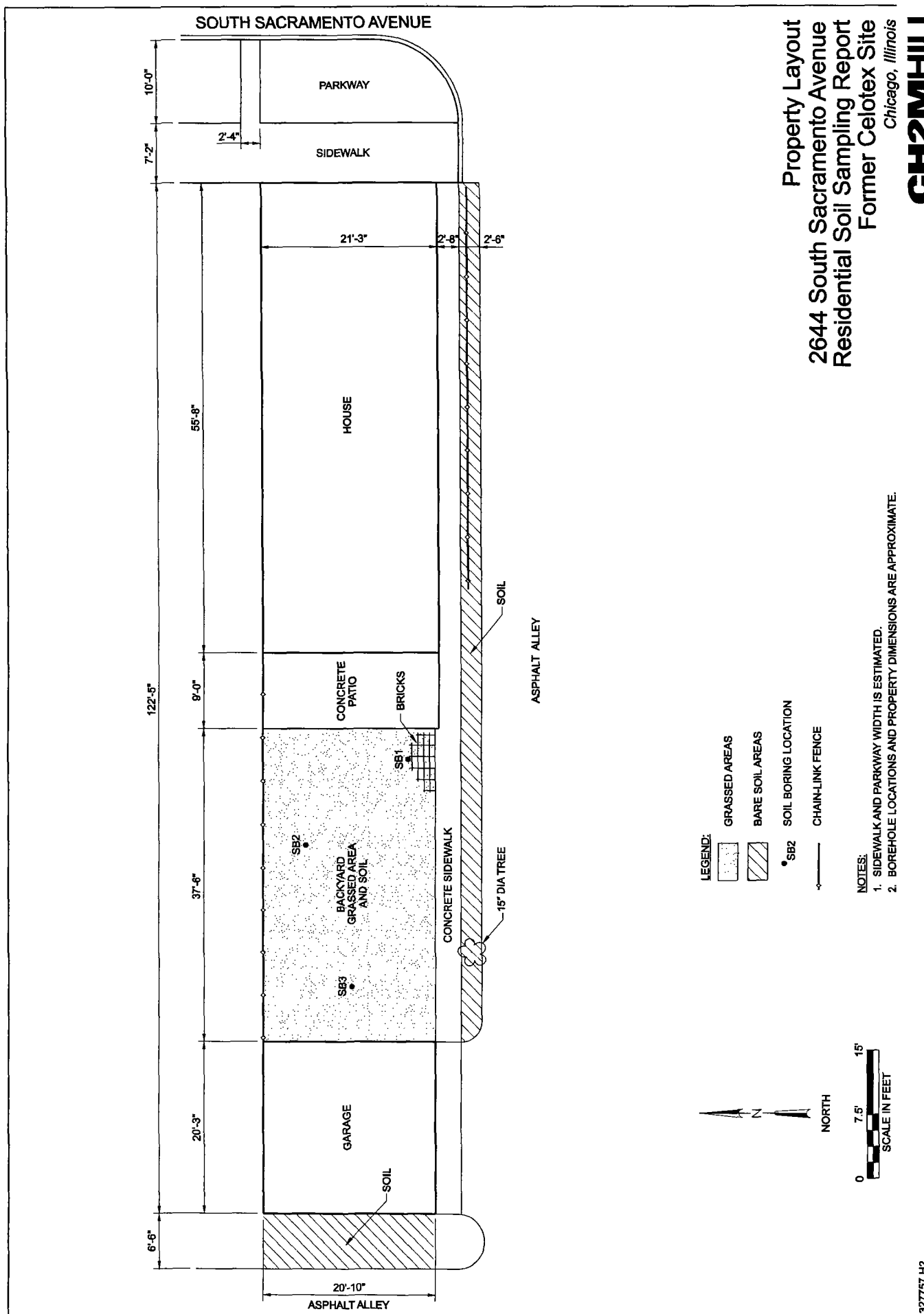
Street Number	Street	Sampling Narrative
Northeast Quadrant		
2644	South Sacramento Avenue	Three borings drilled in the back yard. No front yard present.
2714	South Sacramento Avenue	Three borings drilled in the back yard. No front yard present.
2750	South Sacramento Avenue	Two borings drilled in the front yard and three borings drilled in the back yard.
2752	South Sacramento Avenue	Vacant lot. Five borings drilled on the property and composited.
Southwest Quadrant		
2848	South Troy Street	Two borings drilled in the front yard and three borings drilled in the back yard.
2850	South Troy Street	One boring drilled in the back yard due to very small soil area present which contained a tree. No front yard.
Northwest Quadrant		
2734	South Troy Street	Two borings drilled in the front yard and three borings drilled in the back yard.



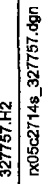
ATTACHMENT A

# **Residential Property Site Plans – September 2007**

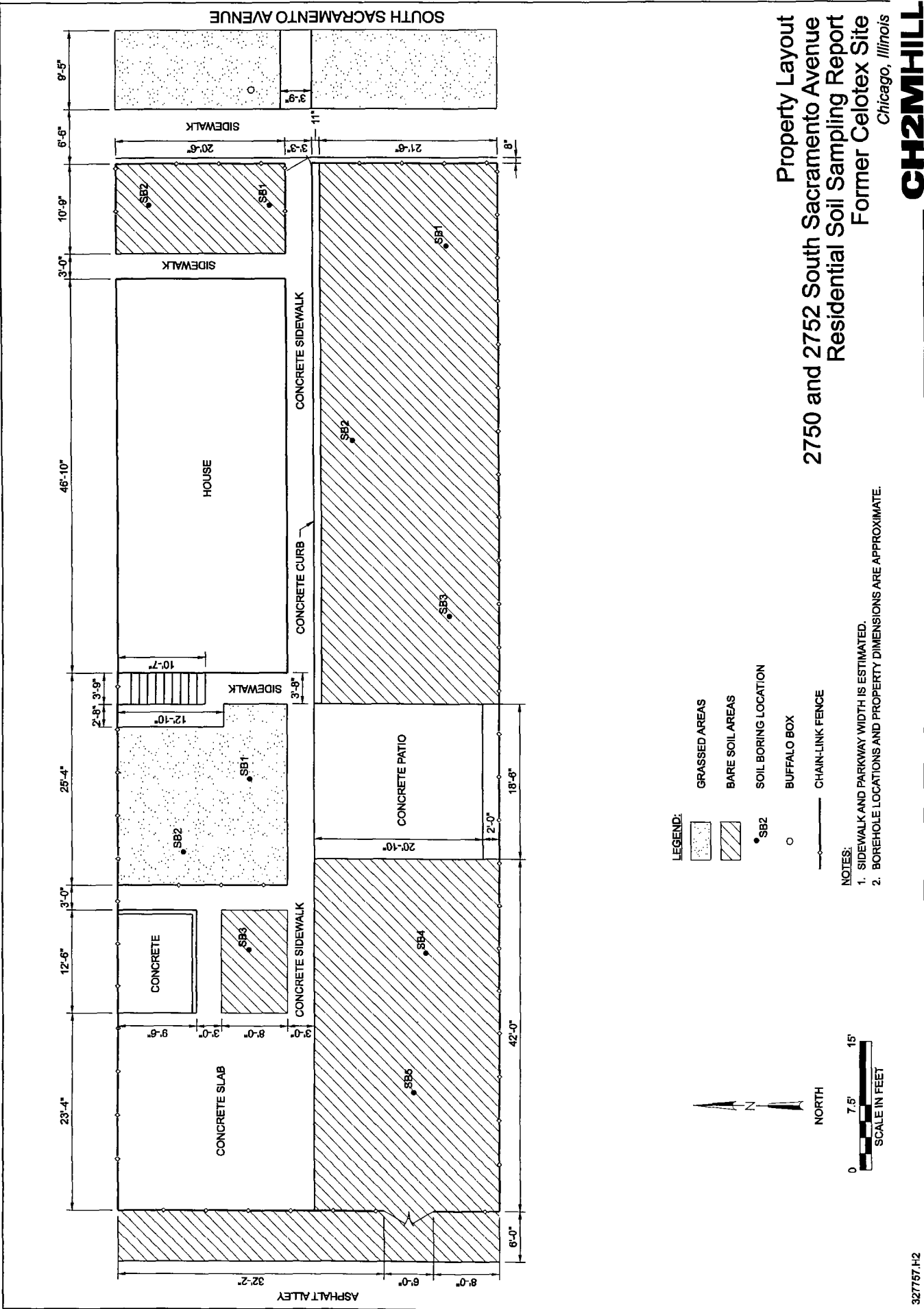
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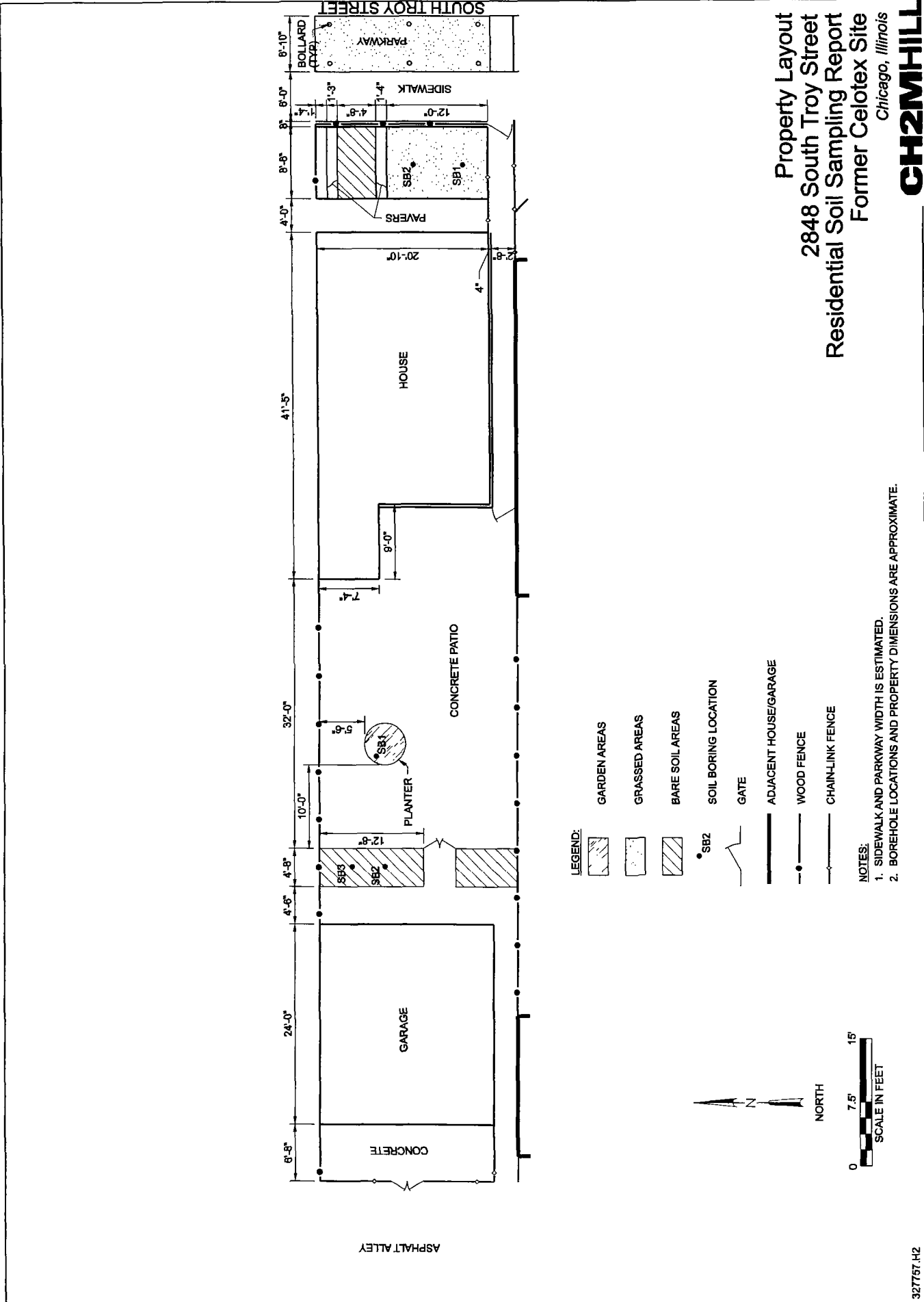


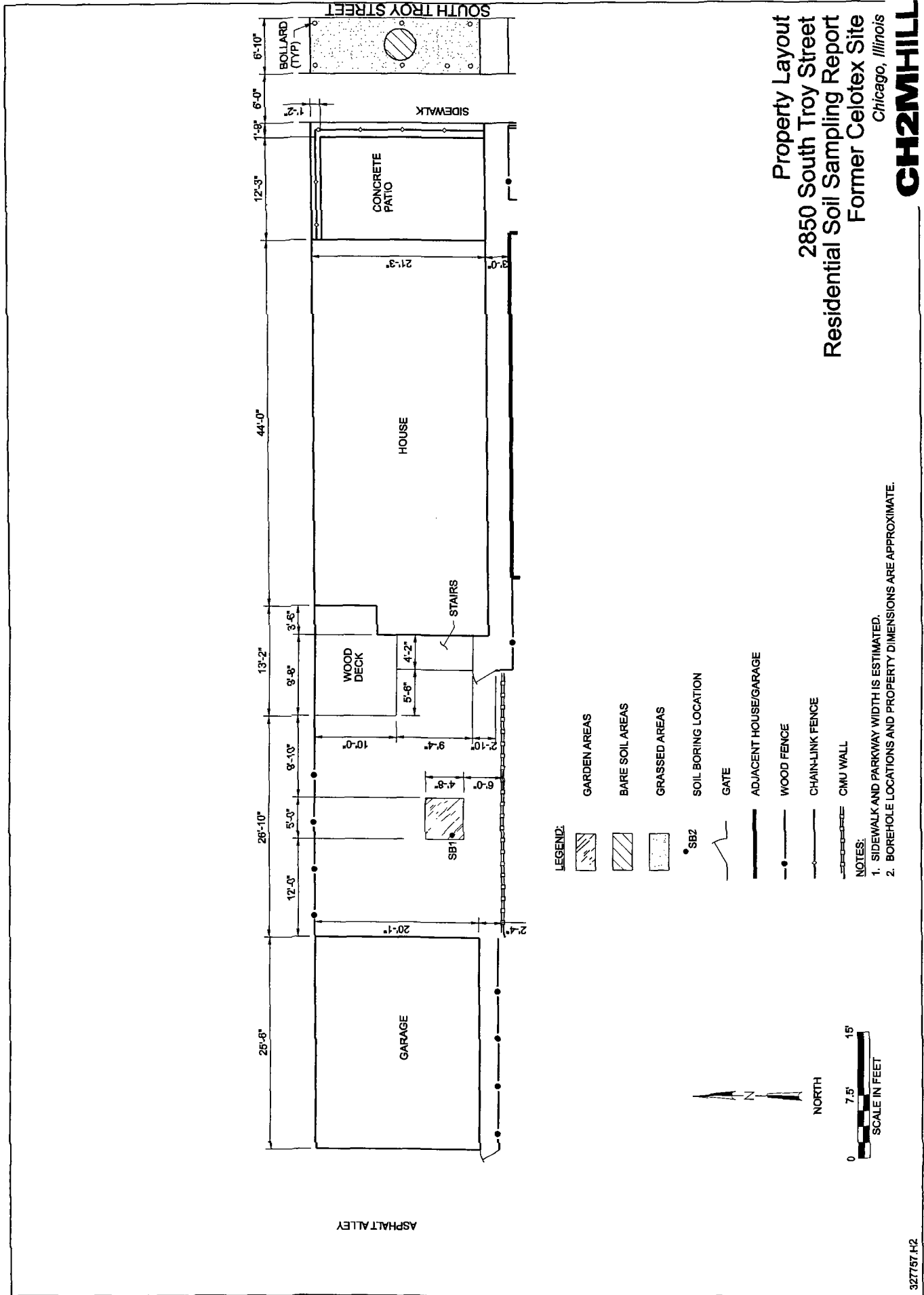
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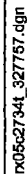








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**ATTACHMENT B**

**Confidential Summary of Analytical Results**

**ATTACHMENT C**

**Non-Property Specific Summary of September 2007 BAPEQ Results**

**ATTACHMENT D**

**Confidential September 2007 Data Validation Memorandum**